PICK-IQ™ Device Register Map

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Holding Registers

Holding Registers for Device Information

Address without Offset	Address with Offset	Description	Holding Register Representation
1000	1001	Low word model number	Example: 0x0002A734 (hex) = 173876 (dec) High word = 0x0002 Low word = 0xA734
1001	1002	High word model number	
1002	1003	Model version (BCD)	
1003–1018	1004–1019	Model name, string	
1019	1020	Low word configuration number	Example: 0x00016D43 (hex) = 93507 (dec) High word = 0x0001 Low word = 0x6D43
1020	1021	High word configuration number	
1021	1022	Configuration version (BCD)	
1022–1037	1023–1038	Serial number/date code, string	
1038–1053	1039–1054	Serial number, string	

Holding Registers for Outputs

Use these registers to differentiate sensor outputs or turn them off.

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
6000	6001	PTL110: Touch sensor output (if present) K50 Display: Touch zone 1 output K50 and K30 Touch: Only output	0 = Disabled 1 = Primary 2 = Secondary	1	Yes
6001	6002	PTL110: Touch sensor on delay (ms) K50 Display: Touch zone 1 on delay (ms) K50 and K30 Touch: On delay (ms)	0–65535	0	Yes
6002	6003	PTL110: Optical sensor output (if present) K50 Display: Touch zone 2 output K50 and K30 Touch: N/A	0 = Disabled 1 = Primary 2 = Secondary	1	Yes
6003	6004	PTL110: Optical sensor on delay (ms) K50 Display: Touch zone 2 on delay (ms) K50 and K30 Touch: N/A	0–65535	0	Yes

Holding Registers to Configure Modbus Communication

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
6100	6101	Device ID: the Modbus individual node ID	1–247	1	Always
6101	6102	Baud rate	12 = 1200 24 = 2400 48 = 4800 96 = 9600 192 = 19200 384 = 38400	192	Always
6102	6103	Parity	0 = none 1 = odd 2 = even	0	Always
6103	6104	Stop Bits	1 = 1 2 = 2 3 = 1.5	1	Always

Holding Registers to Configure Save Characteristics

Controls when certain registers save their value changes to non-volatile memory. The affected registers are those whose Saved column is True.

Refer to the PICK-IQ Devices Instruction Manual for additional information on non-volatile registers.

Available on PTL110 devices with firmware version 4.3 (date code sticker 20281, date code register value 2020-10-07) or newer. Available on all K30 Pro Indicator and Touch devices.

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved [1]
6120	6121	Saving: When Saving value is 0, affected registers are saved immediately after every change. When Saving is set to 1 or 2, those registers are not saved until the Saving register is set to 0.	0 = Registers are saved to non-volatile memory (including this register) 1 = Registers are not saved to non-volatile memory (including this register) 2 = Registers are not saved to non-volatile memory (excluding this register); not available on K30 Pro	K30 Pro = 0 K50 Display = 0 PTL110 prior to v4.3 = 0 PTL110 v4.3 and newer = 2 PTL110 Gen 2 = 0	0 = Yes 1 = No 2 = Yes

Holding Registers for Device-Specific Configuration

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
6200	6201	Indicator intensity, basic mode only	0 = Low 1 = Standard 2 = High	1	Yes
6201	6202	Device orientation (if display is present in the device)	0 = Standard (touch sensor/ indicator located on the right) 1 = Inverted (touch sensor/ indicator located on the left)	0	Yes
6202	6203	Touch sensor sensitivity (if touch sensor is present in the device)	0 = Low 1 = Standard 2 = High	1	Yes
6203	6204	Scrolling display settings (if display is present in the device)	0 = Off 1 = Enabled, slow speed 2 = Enabled, standard speed 3 = Enabled, high speed	2	Yes
6204	6205	Display startup message (if display is present in the device)	0 = None 1 = Show Modbus settings (device ID, baud, data bits, parity bit, stop bit) 2 = Show custom message (6400-6409)	1	Yes
6205	6206	Custom startup message display time (ms) (if display is present in the device)	0 through 65535 (65535 value is infinite)	2000	Yes
6206	6207	First decimal place function (if display is present in the device)	0 = Off 1 = Steady on 2 = Flashing 3 = Communication 4 = Power+Communication 5 = Activation	0	Yes
6207	6208	Second decimal place function (if display is present in the device)	0 = Off 1 = Steady on 2 = Flashing 3 = Communication 4 = Power+Communication 5 = Activation	0	Yes
6208	6209	Third decimal place function (if display is present in the device)	0 = Off 1 = Steady on 2 = Flashing 3 = Communication 4 = Power+Communication 5 = Activation	4	Yes
6209	6210	Display encoding for register 8703 (if display is present in the device)	0 = ASCII 1 = Decimal Numeric	0	Yes

[1] K50 Display and PTL110 Gen 2 only have values 0 and 1.

Holding Registers to Configure State Mode

Refer to the Instruction Manual for a description of these settings.

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
6300	6301	Enable state mode	0 = Disabled 1 = Enabled	0	Yes
6301	6302	Waiting State: Animation	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Top/Bottom 5 = Half/Half Left/Right 6 = Half/Half Rotate 7 = Chase 8 = Intensity Sweep	0	Yes
6302	6303	Waiting State: Color 1	0 = Red 1 = Green 2 = Yellow 3 = Blue 4 = Magenta 5 = Cyan 6 = White 7 = Amber 8 = Rose 9 = Lime Green 10 = Orange 11 = Sky Blue 12 = Violet 13 = Spring Green	0	Yes
6303	6304	Waiting State: Color 2	0 = Red 1 = Green 2 = Yellow 3 = Blue 4 = Magenta 5 = Cyan 6 = White 7 = Amber 8 = Rose 9 = Lime Green 10 = Orange 11 = Sky Blue 12 = Violet 13 = Spring Green	0	Yes
6304	6305	Waiting State: Intensity for color 1	0 = High 1 = Medium 2 = Low 3 = Off	1	Yes
6305	6306	Waiting State: Intensity for color 2	0 = High 1 = Medium 2 = Low 3 = Off	1	Yes
6306	6307	Waiting State: Animation speed	0 = Slow 1 = Standard 2 = Fast	1	Yes
6307	6308	Waiting State: Animation pattern	0 = Normal 1 = Strobe 2 = 3-Pulse 3 = SOS 4 = Random	0	Yes
6308	6309	Waiting State: Animation direction	0 = Clockwise 1 = Counterclockwise	0	Yes
6309	6310	Waiting State: Visual on delay (ms)	0–65535	0	Yes
6310	6311	Waiting State: Visual off delay (ms)	0–65535	0	Yes
6311	6312	Reserved	-		Yes

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
6312	6313	Mispick State: Animation	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Top/Bottom 5 = Half/Half Left/Right 6 = Half/Half Rotate 7 = Chase 8 = Intensity Sweep	2	Yes
6313	6314	Mispick State: Color 1	0 = Red 1 = Green 2 = Yellow 3 = Blue 4 = Magenta 5 = Cyan 6 = White 7 = Amber 8 = Rose 9 = Lime Green 10 = Orange 11 = Sky Blue 12 = Violet 13 = Spring Green	0	Yes
6314	6315	Mispick State: Color 2	0 = Red 1 = Green 2 = Yellow 3 = Blue 4 = Magenta 5 = Cyan 6 = White 7 = Amber 8 = Rose 9 = Lime Green 10 = Orange 11 = Sky Blue 12 = Violet 13 = Spring Green	0	Yes
6315	6316	Mispick State: Intensity for color 1	0 = High 1 = Medium 2 = Low 3 = Off	0	Yes
6316	6317	Mispick State: Intensity for color 2	0 = High 1 = Medium 2 = Low 3 = Off	0	Yes
6317	6318	Mispick State: Animation speed	0 = Slow 1 = Standard 2 = Fast	2	Yes
6318	6319	Mispick State: Animation pattern	0 = Normal 1 = Strobe 2 = 3-Pulse 4 = SOS 5 = Random	2	Yes
6319	6320	Mispick State: Animation direction	0 = Clockwise 1 = Counterclockwise	0	Yes
6320	6321	Mispick State: Visual on delay (ms)	0–65535	0	Yes
6321	6322	Mispick State: Visual off delay (ms)	0–65535	3000	Yes
6322	6323	Reserved	-		Yes
6323	6324	Job State: Animation	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Top/Bottom 5 = Half/Half Left/Right 6 = Half/Half Rotate 7 = Chase 8 = Intensity Sweep	1	Yes

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
6324	6325	Job State: Color 1	0 = Red 1 = Green 2 = Yellow 3 = Blue 4 = Magenta 5 = Cyan 6 = White 7 = Amber 8 = Rose 9 = Lime Green 10 = Orange 11 = Sky Blue 12 = Violet 13 = Spring Green	1	Yes
6325	6326	Job State: Color 2	0 = Red 1 = Green 2 = Yellow 3 = Blue 4 = Magenta 5 = Cyan 6 = White 7 = Amber 8 = Rose 9 = Lime Green 10 = Orange 11 = Sky Blue 12 = Violet 13 = Spring Green	0	Yes
6326	6327	Job State: Intensity for color 1	0 = High 1 = Medium 2 = Low 3 = Off	1	Yes
6327	6328	Job State: Intensity for color 2	0 = High 1 = Medium 2 = Low 3 = Off	1	Yes
6328	6329	Job State: Animation speed	0 = Slow 1 = Standard 2 = Fast	1	Yes
6329	6330	Job State: Animation pattern	0 = Normal 1 = Strobe 2 = 3-Pulse 3 = SOS 4 = Random	0	Yes
6330	6331	Job State: Animation direction	0 = Clockwise 1 = Counterclockwise	0	Yes
6331	6332	Job State: Visual on delay (ms)	0–65535	0	Yes
6332	6333	Job State: Visual off delay (ms)	0–65535	0	Yes
6333	6334	Reserved	-		Yes
6334	6335	Acknowledge State: Animation	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Top/Bottom 5 = Half/Half Left/Right 6 = Half/Half Rotate 7 = Chase 8 = Intensity Sweep	1	Yes

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
6335	6336	Acknowledge State: Color 1	0 = Red 1 = Green 2 = Yellow 3 = Blue 4 = Magenta 5 = Cyan 6 = White 7 = Amber 8 = Rose 9 = Lime Green 10 = Orange 11 = Sky Blue 12 = Violet 13 = Spring Green	2	Yes
6336	6337	Acknowledge State: Color 2	0 = Red 1 = Green 2 = Yellow 3 = Blue 4 = Magenta 5 = Cyan 6 = White 7 = Amber 8 = Rose 9 = Lime Green 10 = Orange 11 = Sky Blue 12 = Violet 13 = Spring Green	0	Yes
6337	6338	Acknowledge State: Intensity for color 1	0 = High 1 = Medium 2 = Low 3 = Off	1	Yes
6338	6339	Acknowledge State: Intensity for color 2	0 = High 1 = Medium 2 = Low 3 = Off	1	Yes
6339	6340	Acknowledge State: Animation speed	0 = Slow 1 = Standard 2 = Fast	1	Yes
6340	6341	Acknowledge State: Animation pattern	0 = Normal 1 = Strobe 2 = 3-Pulse 3 = SOS 4 = Random	0	Yes
6341	6342	Acknowledge State: Animation direction	0 = Clockwise 1 = Counterclockwise	0	Yes
6342	6343	Acknowledge State: Visual on delay (ms)	0–65535	0	Yes
6343	6344	Acknowledge State: Visual off delay (ms)	0–65535	1000	Yes
6344	6345	Reserved	-		Yes
6345	6346	Secondary Acknowledge State: Animation	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Top/Bottom 5 = Half/Half Left/Right 6 = Half/Half Rotate 7 = Chase 8 = Intensity Sweep	1	Yes

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
6346	6347	Secondary Acknowledge State: Color 1	0 = Red 1 = Green 2 = Yellow 3 = Blue 4 = Magenta 5 = Cyan 6 = White 7 = Amber 8 = Rose 9 = Lime Green 10 = Orange 11 = Sky Blue 12 = Violet 13 = Spring Green	3	Yes
6347	6348	Secondary Acknowledge State: Color 2	0 = Red 1 = Green 2 = Yellow 3 = Blue 4 = Magenta 5 = Cyan 6 = White 7 = Amber 8 = Rose 9 = Lime Green 10 = Orange 11 = Sky Blue 12 = Violet 13 = Spring Green	0	Yes
6348	6349	Secondary Acknowledge State: Intensity for color 1	0 = High 1 = Medium 2 = Low 3 = Off	1	Yes
6349	6350	Secondary Acknowledge State: Intensity for color 2	0 = High 1 = Medium 2 = Low 3 = Off	1	Yes
6350	6351	Secondary Acknowledge State: Animation speed	0 = Slow 1 = Standard 2 = Fast	1	Yes
6351	6352	Secondary Acknowledge State: Animation pattern	0 = Normal 1 = Strobe 2 = 3-Pulse 3 = SOS 4 = Random	0	Yes
6352	6353	Secondary Acknowledge State: Animation direction	0 = Clockwise 1 = Counterclockwise	0	Yes
6353	6354	Secondary Acknowledge State: Visual on delay (ms)	0–65535	0	Yes
6354	6355	Secondary Acknowledge State: Visual off delay (ms)	0–65535	1000	Yes
6355	6356	Reserved	-	Yes	

Holding Registers to Define a Custom Startup Message

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
6400–6409	6401–6410	Custom display startup message (if display is present in the device)			Yes

Holding Registers for Test Mode

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
6500	6501	Enable test mode: indicator flashes blue and display shows Device ID	0 = Off 1 = Enabled	0	No

Holding Registers to Restore Factory Defaults

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
6600	6601	Restore factory defaults. Set 6601 and 6602 to the correct key to initiate the selected factory reset type (hard or soft).	0 = Disabled 1 = Enable a hard reset (restore all defaults) 2 = Enable a soft reset (restore all defaults except the Modbus communication settings in registers 6100-6103)	0	No
6601	6602	Restore factory defaults key 1	43690 = Enable	0	No
6602	6603	Restore factory defaults key 2	21845 = Enable	0	No

Holding Registers When Common ID is Active

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
7940	7941	Modbus device ID of active device, same as register 6100			Yes
7941	7942	Device output latch register: values in this register will latch until acknowledged and cleared by the master (either by changing the value in this register or by writing to any register 8700 through 8752) OR will clear after the timeout elapses as defined in register 8812	0 = None triggered 1 = Primary triggered 2 = Secondary triggered 3 = Both triggered		No
7942	7943	Device output status: values in this register will reflect the real time status of the device's outputs	0 = None triggered 1 = Primary triggered 2 = Secondary triggered 3 = Both triggered		No

Main Holding Registers Used in Runtime

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
8700	8701	Device Job state: used in State Mode to designate a device as active (moves devices from Waiting State to Job State and vice versa). Any write to this register resets the device latch in Register 7941.	0 = Waiting State 1–65535 = Job State	0	No
			K30 Pro and K50 Pro indicator-only (K30PLS and K50PLS) models: 0 = Waiting State 1 = Job State 2 = Mispick State 3 = Acknowledge State		
8701	8702	Job animation: primary enumeration is active when device is in Basic Mode (value in register 6300 is 0). Secondary enumeration is active when device is in State Mode (value in register 6300 is 1). This value will then overwrite the value in register 6323.	Primary Enumeration: 0 = Off 1 = Steady 2 = Flash 3 = Strobe 11–20 N-Pulse (N = Index - 10) (e.g. 13 = 3 Pulse)	0	No
			Secondary Enumeration: 0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = Half/Half Top/Bottom 5 = Half/Half Left/Right 6 = Half/Half Rotate 7 = Chase 8 = Intensity Sweep		

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
8702	8703	Job color: primary enumeration is active when device is in Basic Mode (value in register 6300 is 0). Secondary enumeration is active when device is in State Mode (value in register 6300 is 1). This value will then overwrite the value in register 6324.	Primary Enumeration: 0 = Off 1 = Red 2 = Green 3 = Yellow 4 = Blue 5 = Magenta 6 = Cyan 7 = White 8 = Amber 9 = Rose 10 = Lime Green 11 = Orange 12 = Sky Blue 13 = Violet 14 = Spring Green Secondary Enumeration: 0 = Red 1 = Green 2 = Yellow 3 = Blue 4 = Magenta 5 = Cyan 6 = White 7 = Amber 8 = Rose 9 = Lime Green 10 = Orange 11 = Sky Blue 12 = Violet 13 = Spring Green	0	No
8703–8752	8704–8753	Characters for the display. Primary enumeration: null terminated ASCII string or numeric representation (defined in register 6209), each register holds 2 characters (i.e. 8703 holds values for characters 1 and 2 and 8752 holds values for characters 99 and 100 in the string). Secondary enumeration: decimal encoded, decimal value in the register will show on the display.	Primary Enumeration: ASCII encoded 65535 = Blank display Secondary Enumeration: Decimal encoded 0–65534 = decimal shown on the display 65535 = Blank		No

Common ID Configuration Holding Registers

Address without Offset	Address with Offset	Description	Holding Register Representation	Default Value	Saved
8810	8811	Common ID	1–247	195	Yes
8811	8812	Global on delay that applies to both inputs (touch and optical sensor) (stacks on top of on delays in registers 6001 and 6003) (ms)	0–65535 (65535 value is infinite)	0	Yes
8812	8813	Latch timeout for 7941 (ms)	0–65535 (65535 value is infinite)	1000	Yes
8813	8814	Minimum output on time for register 7942, off delay (ms)	0–65535 (65535 value is infinite)	1000	Yes

Input Registers

Input Registers for Temperature

Address	Description	Input Register Representation	Default Value
300	CPU Temperature C		
301	Board Temperature C		

Input Register for Firmware Application

Address	Description	Input Register Representation	Default Value
1000-1001	Firmware application part number	32-bit decimal number (little-endian byte swap)	
1002	Firmware application version and build number	High byte: build number Low byte: High nibble = firmware major version Low nibble = firmware minor version	0x3C43 (build 60, firmware version 4.3)

Appendix A: Alternative Modbus Interface

In addition to the primary Modbus interface, the K30 Pro and K50 Pro Devices with PICK-IQ offer an additional Modbus interface. The register layout of this interface is similar to the index layout used in the K30 Pro and K50 Pro Devices with IO-Link. This alternative interface lacks the Common ID concept available in PICK-IQ, but it offers additional animation functionality not available in the primary interface – for example, the ability to control individual LEDs. The alternative interface is activated by changing the value in Operation Mode (holding register 3200). For further description on how these additional settings affect the K30 Pro and K50 Pro Devices, refer to the K30 Pro Devices with IO-Link datasheet (215851) and the K50 Pro Devices with IO-Link datasheet (208737). The primary interface and this additional interface are intended to be used separately, although some settings can be used together.

Startup Grace Period

After power is applied, and during device startup, the device uses the fixed communication settings (Device ID=196, Baud rate=19200, Data bits=8, Parity=None, Stop bits=1) for a small time period. In the event that the device's configured communication settings are not known to the user, this period can be used to communicate with the device using the fixed settings. During this period, the user can read and write registers to reconcile the device's configured communication settings. After this period has elapsed, the device begins using its configured communication settings as normal.

The duration of the grace period is configured by holding register 6106 and defaults to 1000 ms.

Process Data

Modbus Register	IOL Process Data Type	Operation Mode Applicability	IOL Subindex	Name	Data Values
3000	In	all	1	Output Active	0 = Inactive, 1 = Active
3001	In	Four State Full Logic, Multicolor	2	Device Animation State	0 = State 1, 1 = State 2, 2 = State 3, 3 = State 4
3020	Out	Multicolor	1	Multicolor Animation State	0 = State 1, 1 = State 2, 2 = State 3, 3 = State 4
3040	Out	Four State Full Logic	1	Job Input	0 = Inactive, 1 = Active
3060	Out	Advanced	1	Animation Type	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = 50/50 5 = 50/50 Rotate 6 = Chase 7 = Intensity Sweep 8 = Color Sweep 9 = Sequence
3061	Out	Advanced	2	Animation Direction	0 = CCW, 1 = CW
3062	Out	Advanced	3	Animation Pattern	0 = Flash, 1 = Strobe, 2 - Three Pulse, 3 = SOS, 4 = Random
3063	Out	Advanced	4	Animation Speed	0 = Slow, 1 = Medium, 2 = Fast, 3 = Custom
3064	Out	Advanced	5	reserved	N/A
3065	N/A	Advanced	N/A	reserved	N/A
3066	N/A	Advanced	N/A	reserved	N/A
3067	N/A	Advanced	N/A	reserved	N/A
3068	Out	Advanced	6	Dynamic Sequence Value	0-255
3069	Out	Advanced	7	Sequence Start Location	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 (K50 Pro Devices Only) 5 = LED6 (K50 Pro Devices Only) 6 = LED7 (K50 Pro Devices Only) 7 = LED8 (K50 Pro Devices Only)

Modbus Register	IOL Process Data Type	Operation Mode Applicability	IOL Subindex	Name	Data Values
3070	Out	Advanced	8	Color 1	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom1 15 = Custom2
3071	Out	Advanced	9	Color 1 Intensity	0 = High, 1 = Medium, 2 = Low, 3 = Off, 4 = Custom
3072	Out	Advanced	10	Color 2	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom1 15 = Custom2
3073	Out	Advanced	11	Color 2 Intensity	0 = High, 1 = Medium, 2 = Low, 3 = Off, 4 = Custom
3080	Out	LED Control	1	LED 1 Color	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom1 15 = Custom2
3081	Out	LED Control	2	LED 1 Intensity	0-10 = 0-100%

Modbus Register	IOL Process Data Type	Operation Mode Applicability	IOL Subindex	Name	Data Values
3082	Out	LED Control	3	LED 2 Color	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom1 15 = Custom2
3083	Out	LED Control	4	LED 2 Intensity	0-10 = 0-100%
3084	Out	LED Control	5	LED 3 Color	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom1 15 = Custom2
3085	Out	LED Control	6	LED 3 Intensity	0-10 = 0-100%
3086	Out	LED Control	7	LED 4 Color	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom1 15 = Custom2
3087	Out	LED Control	8	LED 4 Intensity	0-10 = 0-100%

Modbus Register	IOL Process Data Type	Operation Mode Applicability	IOL Subindex	Name	Data Values
3088	Out	LED Control	9	LED 5 Color (K50 Pro Devices Only)	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom1 15 = Custom2
3089	Out	LED Control	10	LED 5 Intensity	0-10 = 0-100%
3090	Out	LED Control	11	LED 6 Color (K50 Pro Devices Only)	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom1 15 = Custom2
3091	Out	LED Control	12	LED 6 Intensity	0-10 = 0-100%
3092	Out	LED Control	13	LED 7 Color (K50 Pro Devices Only)	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom1 15 = Custom2
3093	Out	LED Control	14	LED 7 Intensity	0-10 = 0-100%

Modbus Register	IOL Process Data Type	Operation Mode Applicability	IOL Subindex	Name	Data Values
3094	Out	LED Control	15	LED 8 Color (K50 Pro Devices Only)	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom1 15 = Custom2
3095	Out	LED Control	16	LED 8 Intensity	0-10 = 0-100%
3096	Out	LED Control	17	reserved	N/A
3097	Out	LED Control	18	reserved	N/A
3098	Out	LED Control	19	reserved	N/A

Parameter Data

Modbus Register	Index	Subindex	Name	Value Range	Default
3200	80	N/A	Operation Mode	0 = Multicolor 1 = Four State Full Logic 2 = Advanced 3 = LED Control 4 = Demo **5 = PICK-IQ**	5
3300	84	1	State 1 Animation Type	0 = Off 1 = Steady 2 = Flash 3 = Two Color Flash 4 = 50/50 5 = 50/50 Rotate 6 = Chase 7 = Intensity Sweep 8 = Color Sweep 9 = Sequence	1
3301	84	2	State 1 Animation Direction	0 = CCW, 1 = CW	false
3302	84	3	State 1 Animation Pattern	0 = Flash, 1 = Strobe, 2 - Three Pulse, 3 = SOS, 4 = Random	0
3303	84	4	State 1 Animation Speed	0 = Slow, 1 = Medium, 2 = Fast, 3 = Custom	1
3304	84	5	State 1 Haptic Feedback	N/A	0
3305	84	6	State 1 Off Delay Type	0 = Leading Edge, 1 = Trailing Edge	false
3306	84	7	State 1 Off Delay (ms)	0-65535	0
3307	not available	not available	State 1 On Delay (ms)	N/A	N/A
3308	84	8	State 1 Static Sequence Value (0-225)	0-225	0

Modbus Register	Index	Subindex	Name	Value Range	Default
3309	84	9	State 1 Sequence Start Location	0 = LED1 1 = LED2 2 = LED3 3 = LED4 4 = LED5 5 = LED6 6 = LED7 7 = LED8	0
3310	84	10	State 1 Color 1	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom1 15 = Custom2	0
3311	84	11	State 1 Color 1 Intensity	0 = High, 1 = Medium, 2 = Low, 3 = Off, 4 = Custom	0
3312	84	12	State 1 Color 2	0 = Green 1 = Red 2 = Orange 3 = Amber 4 = Yellow 5 = Lime Green 6 = Spring Green 7 = Cyan 8 = Sky Blue 9 = Blue 10 = Violet 11 = Magenta 12 = Rose 13 = White 14 = Custom1 15 = Custom2	0
3313	84	13	State 1 Color 2 Intensity	0 = High, 1 = Medium, 2 = Low, 3 = Off, 4 = Custom	0
3320-3333	85	State 2 Parameters (same structure as Index 84)			
3340-3353	86	State 3 Parameters (same structure as Index 84)			
3360-3373	87	State 4 Parameters (same structure as Index 84)			
3400	88	2-1	Custom Color 1 Green and Red	0-255	255
3401	88	3	Custom Color 1 Blue	0-255	255
3410	89	2-1	Custom Color 2 Green and Red	0-255	255
3411	89	3	Custom Color 2 Blue	0-255	255
3420	81	1	Custom Intensity (0-100%)	0-100	100
3421	81	2	Custom Flash Rate (0.5-25.5 Hz)	5-255	15
3422	81	3	Restrict to Gamut	0 = Off, 1 = On	0
3430	82	1	Touch Sensitivity	0 = Low, 1 = Standard, 2 = High	1
3431	82	2	Touch Function	0 = Momentary, 1 = Latched	0

Modbus Register	Index	Subindex	Name	Value Range	Default
3432	82	3	Touch Mute Enable	0 = Off, 1 = On	0
3433	82	4	Touch On-Delay (ms)	0-65535	0
3440	83	1	Output State	0 = Normally Closed, 1 = Normally Open	true
3441	83	2	Output Off-Delay Type	0 = Leading Edge, 1 = Trailing Edge	0
3442	83	3	Output Off-Delay (ms)	0-65,535	0

Miscellaneous

Modbus Register	Name	Value	Access Type
3900	High temperature	0 = normal temperature, 1 = high temperature condition	r
3901	LED0 Open/Short	Bitfield: (short) xxxxBGR (open) xxxxBGR	r
3902	LED1 Open/Short	Bitfield: (short) xxxxBGR (open) xxxxBGR	r
3903	LED2 Open/Short	Bitfield: (short) xxxxBGR (open) xxxxBGR	r
3904	LED3 Open/Short	Bitfield: (short) xxxxBGR (open) xxxxBGR	r
3905	LED4 Open/Short	Bitfield: (short) xxxxBGR (open) xxxxBGR	r
3906	LED5 Open/Short	Bitfield: (short) xxxxBGR (open) xxxxBGR	r
3907	LED6 Open/Short	Bitfield: (short) xxxxBGR (open) xxxxBGR	r
3908	LED7 Open/Short	Bitfield: (short) xxxxBGR (open) xxxxBGR	r
6106	Startup grace period	milliseconds	rw